nvironmental Research

An International Journal of Environmental Medicine
and the Environmental Sciences

EDITOR-IN-CHIEF

Irving J. Selikoff

ASSOCIATE EDITORS

E. Cuyler Hammond
Paul Kotin
Patrick J. Lawther
Douglas H. K. Lee
Jaroslav Teisinger
Ian Webster

Volume 23, 1980

Copyright © 1980 by Academic Press, Inc.

All rights reserved

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the copyright owner.

The appearance of the code at the bottom of the first page of an article in this journal indicates the copyright owner's consent that copies of the article may be made for personal or internal use, or for the personal or internal use of specific clients. This consent is given on the condition, however, that the copier pay the stated per copy fee through the Copyright Clearance Center, Inc. (21 Congress Street, Salem, Massachusetts, 01970), for copying beyond that permitted by Sections 107 or 108 of the U.S. Copyright Law. This consent does not extend to other kinds of copying, such as copy-for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale. Copy fees for pre-1980 articles are the same as those shown for current articles.

MADE IN THE UNITED STATES OF AMERICA

CONTENTS OF VOLUME 23

NUMBER 1, OCTOBER 1980

MELVIN DWAINE REUBER. Carcinogenicity of Pronamide. 1

KŌJI NOGAWA, ETSUKO KOBAYASHI, RYUMON HONDA, ARINOBU ISHIZAKI, SHUNICHI KAWANO, AND HARUO MATSUDA. Renal Dysfunctions of Inhabitants in a Cadmium-Polluted Area. 13

ANITA BAKER-BLOCKER. Ultraviolet Radiation and Melanoma Mortality in the United States. 24

SUSAN D. HASELTINE AND RICHARD M. PROUTY. Aroclor 1242 and Reproductive Success of Adult Mallards (*Anas platyrhynchos*). 29

TRACY K. COLLIER, MARGARET M. KRAHN, AND DONALD C. MALINS. The Disposition of Naphthalene and Its Metabolites in the Brain of Rainbow Trout (*Salmo gairdneri*). 35

M. R. GUERIN, C.-H. HO, T. K. RAO, B. R. CLARK, AND J. L. EPLER. Polycyclic Aromatic Primary Amines as Determinant Chemical Mutagens in Petroleum Substitutes. 42

J. QUARTERMAN, W. R. HUMPHRIES, J. N. MORRISON, AND E. MORRISON. The Influence of Dietary Amino Acids on Lead Absorption. 54

J. WYNNE BHATTACHARJEE, R. P. SAXENA, AND S. H. ZAIDI. Experimental Studies on the Toxicity of Bagasse. 68

J. F. LEATHERLAND AND R. A. SONSTEGARD. Structure of Thyroid and Adrenal Glands in Rats Fed Diets of Great Lakes Coho Salmon (*Oncorhynchus kisutch*). 77

THOMAS F. DEMARIA AND ROBERT BURRELL. Effects of Inhaled Endotoxin-Containing Bacteria. 87

M. YUSUF KHAN AND SHAMSHAD H. GILANI. Selenium Poisoning and Embryogenesis: Light and Electron Microscopic Studies of the Heart. 98

BERNARD ADKINS, JR., GERALDINE H. LUGINBUHL, FREDERICK J. MILLER, AND DONALD E. GARDNER. Increased Pulmonary Susceptibility to Streptococcal Infection following Inhalation of Manganese Oxide. 110

GARY E. HATCH, DONALD E. GARDNER, AND DANIEL B. MENZEL. Stimulation of Oxidant Production in Alveolar Macrophages by Pollutant and Latex Particles. 121

U. G. OLERU. Pulmonary Function of Control and Industrially Exposed Nigerians in Asbestos, Textile, and Toluene Diisocyanate-Foam Factories. 137

J. W. Hawkes, E. H. Gruger, Jr., and O. P. Olson. Effects of Petroleum Hydrocarbons and Chlorinated Biphenyls on the Morphology of the Intestine of Chinook Salmon (*Oncorhynchus tshawytscha*). . . . 149

I. D. Capel, M. Jenner, M. H. Pinnock, H. M. Dorrell, and D. C. Williams. The Effect of Overcrowding Stress on Carcinogen-Metabolizing Enzymes of the Rat. 162

Anne Johansson, Per Camner, Connie Jarstrand, and Anna Wiernik. Morphology and Function of Alveolar Macrophages after Long-Term Nickel Exposure. 170

Muzaffer Aksoy. Different Types of Malignancies due to Occupational Exposure to Benzene: A Review of Recent Observations in Turkey. . 181

R. G. Thomas, J. S. Wilson, and J. E. London. Multispecies Retention Parameters for Cadmium. 191

Louis W. Chang, Paul R. Wade, Kenneth R. Reuhl, and Michael J. Olson. Ultrastructural Changes in Renal Proximal Tubules after Tetraethyllead Intoxication. 208

Short Communication

P. F. Holt. Dust Elimination from Pulmonary Alveoli. 224

Book Reviews. 228

Number 2, December 1980

J. H. Puffer, M. Germine, D. O. Hurtubise, K. A. Mrotek, and D. M. Bello. Asbestos Distribution in the Central Serpentine District of Maryland–Pennsylvania. 233

J. P. Berry and P. Galle. Phagocytosis by Alveolar Cells Studied by Electron Microscopy and Microanalysis: Comparison of Two Types of Particles. 247

Mogens Unger and Jørn Olsen. Organochlorine Compounds in the Adipose Tissue of Deceased People with and without Cancer. . . . 257

J. E. Denton, G. D. Potter, and J. A. Santolucito. A Comparison of Skull and Femur Lead Levels in Adult Rats. 264

Ellen I. Kahn, Arthur Rohl, Elizabeth W. Barrett, and Y. Suzuki. Primary Pericardial Mesothelioma following Exposure to Asbestos. 270

I. K. Grundt and N. M. Neskovic. Comparison of the Inhibition by Methylmercury and Triethyllead of Galactolipid Accumulation in Rat Brain. 282

Francis Segarra, M. Baselga Monte, P. Lopez Ibanez, and J. Perez Nicolas. Asbestosis in a Barcelona Fibrocement Factory. . . . 292

M. E. Hilburn, I. P. L. Coleman, and J. A. Blair. Factors Influencing the Transport of Lead across the Small Intestine of the Rat. . . . 301

James Peppriell. A Comparison of the Cytochrome *P*-450 Species Induced by Mirex and 3,4,5,3′,4′,5′-Hexachlorobiphenyl in Hepatic Microsomes of the Mouse. 309

B. G. Rao, D. M. Hutchison, and I. A. MacDonald. Formation of Ether-Soluble Griess Reagent-Positive Material from Human Feces and Sodium Nitrite. 319

William C. Thomas, Jr. and Ellen J. O'Flaherty. A System for Exposing Animals to Smoke Generated in a Steady-State Fashion. . . 326

D. L. Fisher. Effect of Polybrominated Biphenyls on the Accumulation of DNA, RNA, and Protein in Cultured Rat Embryos following Maternal Administration. 334

M. A. Toraason, D. W. Badger, and G. L. Wright. Gastrointestinal Response in Rats to Vibration and Restraint. 341

H. G. Siegrist, Jr. and A. G. Wylie. Characterizing and Discriminating the Shape of Asbestos Particles. 348

C. T. Schnizlein, D. E. Bice, A. H. Rebar, R. K. Wolff, and R. L. Beethe. Effect of Lung Damage by Acute Exposure to Nitrogen Dioxide on Lung Immunity in the Rat. 362

Gerhard Röderer. On the Toxic Effects of Tetraethyl Lead and Its Derivatives on the Chrysophyte *Poterioochromonas malhamensis*. I. Tetraethyl Lead. 371

Lidia Pużyńska. Brain Biochemistry and Learning Ability of Rats Treated with Propoxur Given in Diets of Varying Protein Content. . . 385

Kunimitsu Kaya, Takashi Miura, and Kentaro Kubota. Effects of Nitrogen Dioxide on Red Blood Cells of Rats: Changes in Components of Red Cell Membranes during *in Vivo* Exposure to NO_2. . . . 397

Hisato Hayashi. Analytical Electron Microscopy in the Study of Pneumoconiosis. 410

C. C. Chang, R. Lauwerys, A. Bernard, H. Roels, J. P. Buchet, and J. S. Garvey. Metallothionein in Cadmium-Exposed Workers. 422

David Keast and David Ayre. Effects of Chronic Tobacco Smoke Exposure from High-Tar or Low-Tar Cigarettes on the Systemic Clearance Mechanisms of Mice. 429

Albert Miller and John C. Thornton. The Interpretation of Spirometric Measurements in Epidemiologic Surveys. 444

Gösta Axelsson and Ragnar Rylander. Environmental Chromium Dust and Lung Cancer Mortality. 469

Book Reviews. 477
Announcements. 479
Author Index for Volume 23. 481
Cumulative Subject Index for Volumes 21–23. 483

INSTRUCTIONS TO AUTHORS

Manuscripts. Papers may represent original research in any of the disciplines now concerned with man-environmental relationships; it is anticipated that the relevance of the findings to broad problems of environmental biology and environmental medicine will be considered. Analytical and integrative reviews are equally eligible. The editorial emphasis of the Journal is on research concerning health effects of environmental alterations, broadly considered; engineering and control efforts are well served elsewhere.

Selected Book Reviews will be included.

Submission of Manuscripts. These should be submitted in duplicate to any member of the Board of Editors or to ENVIRONMENTAL RESEARCH, Editorial Offices, Environmental Sciences Laboratory, Mount Sinai School of Medicine, Fifth Avenue and 100th Street, New York, New York 10029. Further, prior review of the paper may be undertaken with a member of the Board of Consulting Editors, especially one with particular competence in the area concerned (as, environmental physiology, epidemiology and biostatistics, ecology, occupational medicine, toxicology, anthropology, climatology, air pollution, environmental medicine, geophysics, etc.); this will often expedite consideration of the paper.

Original papers only will be considered. Manuscripts are accepted for review with the understanding that the same work has not been and will not be published nor is presently submitted elsewhere, and that all persons listed as authors have given their approval for the submission of the paper; further, that any person cited as a source of personal communications has approved such citation. Written authorization may be required at the Editor's discretion. Articles and any other material published in *Environmental Research* represent the opinions of the author(s) and should not be construed to reflect the opinions of the Editor(s) and the Publisher.

Authors submitting a manuscript do so on the understanding that if it is accepted for publication, copyright in the article, including the right to reproduce the article in all forms and media, shall be assigned exclusively to the Publisher. The Publisher will not refuse any reasonable request by the author for permission to reproduce any of his or her contributions to the journal.

All papers will be published in English. It is preferable that papers be submitted in English to ensure faithfulness to the author's meaning. If necessary, however, a translation will be arranged.

Form of Manuscript. Manuscripts should be typewritten (not mimeographed) with double or triple spacing and wide margins on high quality bond paper. Subdivision of the article into *Abstract* (50–200 words), *Introduction, Materials and Methods, Results, Discussion, Acknowledgments* and *References* is recommended. However, variations of this format are acceptable if they provide clearer expression of the subject. In addition, section headings are often useful.

The first page of the manuscript should contain the article title, author's name, and affiliation (include zip code where applicable). The second page should contain a proposed running head of fewer than 40 characters and the address of the person to whom proofs are to be sent. In the upper left-hand corner of each following page (including Reference pages, Tables, etc.) please type a shortened form of the title and the surname of the senior author. Please also number each of these pages.

Abbreviations. Follow the usage established by *Chemical Abstracts.* If others are utilized define on first use.

Figures and Tables. Number all figures consecutively with arabic numerals; legends should be typed together on a separate sheet. Lettering on the original figures should be large enough to take a reduction of 50–60 per cent. Graphs should be plotted with black India ink on light blue coordinate paper, no larger than 8½″ × 11″; grid lines that are to show in the engraving should be inked in black. Photographs should be glossy prints (5″ × 7″ or 8″ × 10″) with strong contrasts. X-rays should be right-reading glossy prints.

Tables are to be typed on separate pages and numbered with arabic numerals; a table title should be included.

Footnotes. Footnotes in the text are identified by superscript *numerals* and listed on a separate sheet; in the *tables* by superscript *letters* and placed at the bottom of the table.

References. These are to be cited in the text by the author's name and year of publication. References should be listed alphabetically at the end of the paper in the following order:

Curry, A. S. (1963). Acidic and neutral poisons. *In* "Progress in Chemical Toxicology" (A. Stolman, Ed.), Vol. 1, pp. 135–155, Academic Press, New York.

Waller, R. E., Commins, B. T., and Lawther, P. J. (1965). Air pollution in a city street. *Brit. J. Industr.* **22**, 128–138.

The names of journals should be abbreviated according to the *Index Medicus* or Chemical Abstracts' *Service Source Index.* Include in the reference list articles that are "in press," but incorporate in the text or use footnotes for "manuscript in preparation," "personal communication," or "unpublished observations."

Reprints. A reprint order form will accompany galley proofs. The senior author receives 50 reprints free of charge, and additional copies may be ordered.

Correspondence. Editorial communications should be addressed to ENVIRONMENTAL RESEARCH, Editorial Offices, Environmental Sciences Laboratory, Mount Sinai School of Medicine, Fifth Avenue and 100th Street, New York, N.Y. 10029. Business correspondence and information concerning subscriptions should be addressed to Academic Press, Inc., Journal Production Department, 111 Fifth Avenue, New York, N.Y. 10003.